GANSHORN
SCHILLER GROUP

SpiroScout

Desktop Spirometer

Heart of Precise and Mobile PFT –
With SharpFlow Ultrasound Technology

Mobile. Precise. Proven. SpiroScout.

SpiroScout is a high-precision, mobile spirometer that has been trusted by professionals for over 15 years. Designed for use across all clinical and diagnostic applications, it forms the core of all GANSHORN diagnostic systems.

With the pioneering introduction of ultrasound-based flow measurement, GANSHORN redefined the possibilities of spirometry and lung function diagnostics. The SpiroScout uses simultaneous flow and molar mass determination to deliver highly accurate measurements of all key respiratory parameters — including flow/volume, FEV1, lung volumes, and both static and dynamic lung function values, such as peak flow. SpiroScout is certified according to 510 (k) and MDR.

Reliable, ultra-fast, no warm-up time

Versatile, fast and compatible LFX software platform

Compact and portable

Highly accurate and precise gas analyzers

Calibration free

Maintenance free

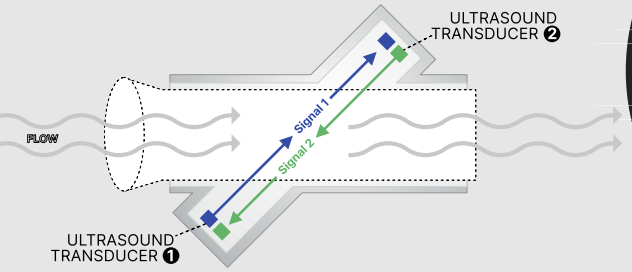
SpiroScout is the world's first and only spirometer to simultaneously measure both flow and gas concentration — enabling comprehensive analysis of flow, volume, and respiratory gas parameters in a single measurement.

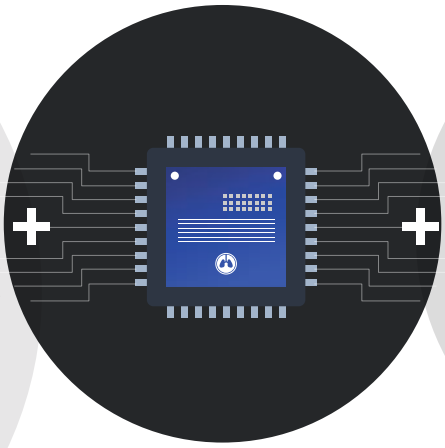
Thanks to its advanced SharpFlow ultrasound technology, SpiroScout meets a wide range of clinical requirements and can be tailored to individual diagnostic needs.

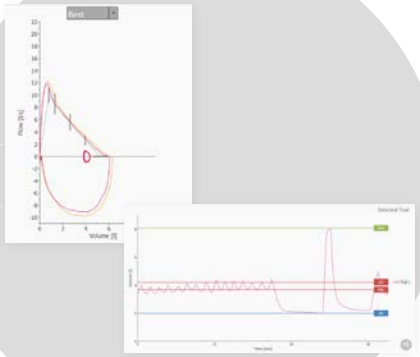
SharpFlow

The GANSHORN ultrasound technology

Two diagonally opposed ultrasonic transducers alternately transmit and receive ultrasonic waves. Without airflow in the breathing tube, the travel time of the ultrasonic waves is the same in both directions. An airflow in the tube accelerates the waves in one direction and slows them down in the other.
The flow rate can be calculated from the difference in the travel times of the ultrasonic waves. The measured travel times are used to calculate flow rate and gas density, allowing changes in the concentration of exhaled gases to be determined directly and simultaneously with the breathing volume. All other factors, such as gas properties, humidity, and temperature, are the same in both directions and cancel each other out.







1 Double ultrasound signal capturing

The ultrasound measuring system captures the signal with two sensors, in both directions simultaneously, for spatially precise recording

2 Measurement hardware acceleration

Devices based on SharpFlow measurement technology use sophisticated and proven hardware.

3 High-resolution diagram rendering

Based on the multi-layered recorded values, the measurement software Ganshorn.LFX is able to render particularly precise and sharp graphics.

Precision + Resolution

The right sampling resolution, which corresponds to the interpretation, is a prerequisite for reliable flow determination.

No detours

No substitute parameters for flow necessary (e.g. Differential pressure)

Direct flow measurement based on digital measurement technology

Room climate-independent

Not affected by changing ambient conditions like temperature or humidity of breathing air

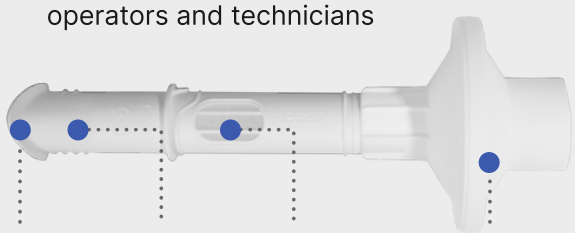
Measuring options

ScoutTube

Mouthpiece

ScoutTube is the disposable breathing tube of SpiroScout. It is easy to use and a hygienic solution, as you simply change it with every patient. Using the ScoutTube allows to measure without added resistance from a filter. It suits all ages from children to adults, at all levels of health. ScoutTubes are permeable to ultrasound waves. However, due to the small window size of the mesh and its arrangement, contamination of the device is unlikely.

- ✓ Shape encourages tight seal of lips, avoiding leaks
- ✓ Cost-efficient
- ✓ No cleaning needed (single patient use)
- ✓ Disposable but eco-friendly, biodegradable
- ✓ No added resistance
- ✓ SpiroDef ScoutTube mounted at the back of the device, offers protection against cross-contamination and protection for operators and technicians



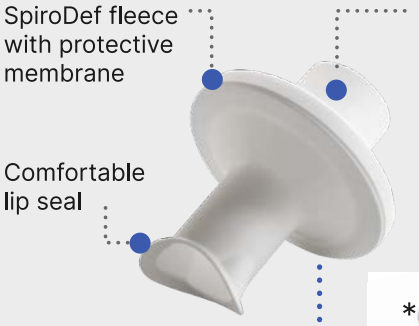
Front: Comfortable lip seal | Indents for teeth prevent slipping | Permeable for ultrasound waves | SpiroDef ScoutTube (back side mounted)

SpiroDef

PFT filter

The SpiroDef contains a filter fleece developed to high quality standards. It provides an effective mechanical barrier, reliably filtering bacteria and viruses from aerosols, preventing contamination of the device as well as protecting the ambient air. The SpiroDef allows a clean, economical workflow and with an ergonomic compact shape, it not only saves space, but minimizes the use of plastic, reducing waste. This filter is used in a SpiroScout fitted with the permanent breathing tube* (picture below).

- ✓ Integrated mouthpiece
- ✓ Shape encourages tight seal of lips, avoiding leaks
- ✓ Very compact design saves storage
- ✓ 30% less plastics used than in comparable products
- ✓ Comfortable to use



*

Sustainability

When you buy ScoutTubes or SpiroDefs, you are also investing in a sustainable future: the climate protection contribution based on the calculated emissions is invested in high-quality myclimate climate protection projects worldwide that meet the highest standards.

myclimate
Engaged for Impact
Product
myclimate.org/01-23-300475

Upgrades and options

Tidal breathing analysis

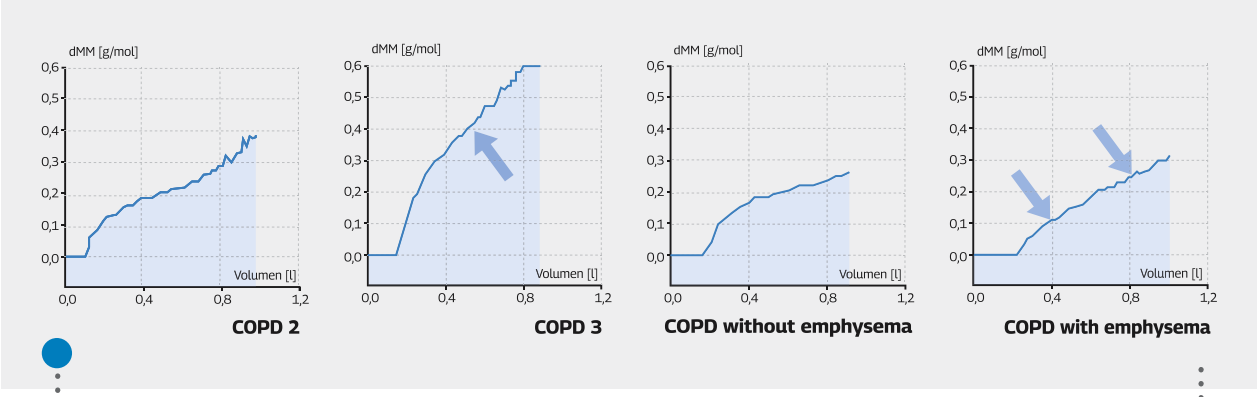
Tidal breathing analysis can be performed on patients who are unable to perform a spirometry measurement, e.g. young children and even neonates.

Rhinomanometry

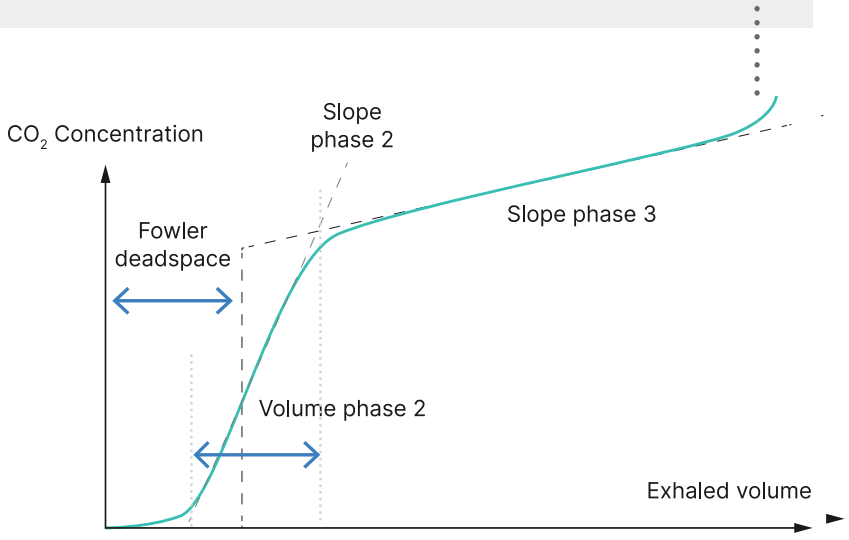
Rhinomanometry is a form of manometry used to help evaluate the nasal cavity and the respiratory function of the nose. It measures pressure and flow during normal inspiration and expiration through the nose.

Capnovolumetry

Capnovolumetry* analyzes exhaled CO_2 relative to volume, determining anatomical and functional airway dead space. It doesn't require patient cooperation, making it useful for monitoring respiratory diseases in pediatric and geriatric patients.



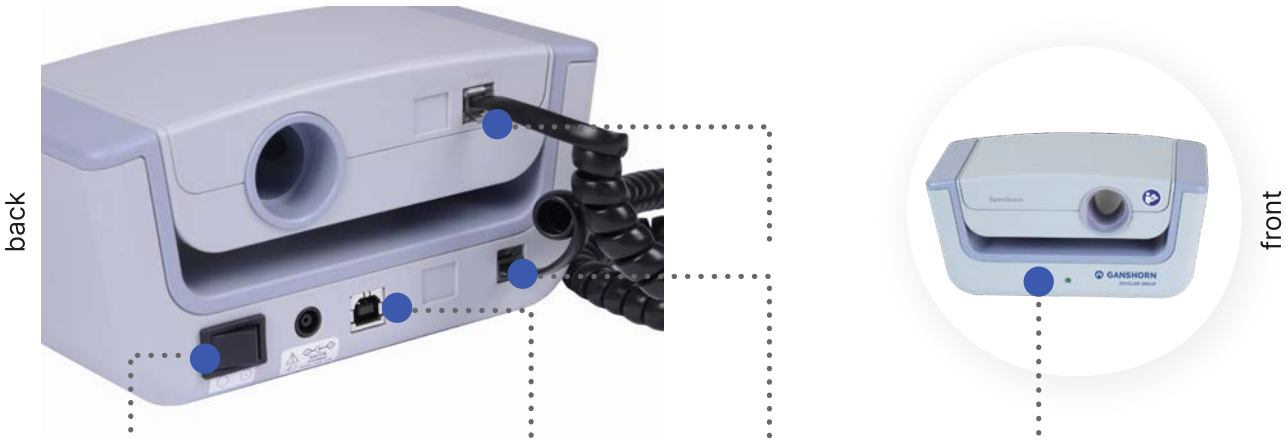
Example graphs of capnovolumetry in patients with COPD of GOLD 2 and 3 severity, and in patients with and without emphysema. With increasing severity as well as the presence of emphysema, phase 3 becomes steeper and the difference in the slope to phase 2 becomes smaller, correspondingly the quotient s3/s2 becomes larger. [1]



* works only with ScoutTube

1 Klütsch et al.: Wertigkeit der Ultraschall-Kapnovolumetrie in der Differentialdiagnose von obstruktiven Atemwegserkrankungen in der klinischen Praxis, TU Munich, Munich

Connectors and controls



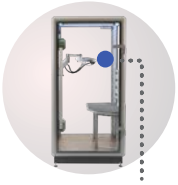
Programs and features

Programs	Standard	Option
Microsoft SQL / MySQL	✓	
Customizable reports	✓	
Multiuser license		✓
Worklist		✓
DICOM/GDT/HL7		✓

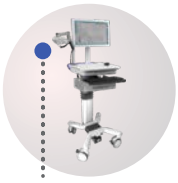
Features	Standard	Option
Forced spirometry	✓	
Slow spirometry	✓	
MVV	✓	
Provocation		✓
Rhinomanometry		✓
Capnovolumetry		✓
Measurement with filter		✓
Tidal breathing analysis		✓

Set-Ups

ScoutSensor used with PowerCube Diffusion+



ScoutSensor used in PowerCube Body+



ScoutSensor used in PowerCube Spiro+

LFX Software platform

The Ganshorn.LFX software is our user-friendly interface, developed with the physiologist in mind. The patient management interface provides all the tools necessary to perform every task done in the laboratory, while remaining easy to operate. Built on state-of-the-art Windows tools like .net, C# and SQL database, the LFX software is the future of modern respiratory diagnostics. The LFX software has built-in quality control monitoring based on ATS/ERS guidelines, which are accessible during and after the measurements

Reference values

Flow/Volume: Flexible selection of best in/ex curves from any chosen trials

GLI, ECCS, NHANES, ATS and many more reference values available and editable

Efficiency

Automatic offset correction

Online BTPS compensation

No volume calibration

Graphical visualisation tools for evaluation

Maneuvre animations for children

High quality

Clean and modern interface

Quality control via ATS/ ERS criteria

Improved speed diagnosis

Customizable templates and reports

Comprehensive service and support

Intuitive workflow

Connect all GANSHORN devices to one software system

Large-format displays enable quick and correct evaluation of measurements and breathing maneuvers at first glance. The use of modern Windows tools such as .NET enables platform and language-independent communication. A modern database concept that uses both Microsoft SQL and MySQL offers the perfect approach – both for general practitioners and for large hospital networks.

- HIS integration
- DICOM
- GDT communication
- Full network compatibility
- SQL Database system
- Export of PDF and raw data files

Why GANSHORN?

For 40 years GANSHORN has been manufacturing a complete state-of-the-art portfolio of pulmonary function testing systems for spirometry, body plethysmography, diffusion, bronchial provocation and cardiopulmonary stress testing. With its technological innovations, the company has been a leader in the diagnostics market since 1982. Many of these are now perceived as GOLD standards. In order to meet our high quality standards, it is important to us that all key components are made in Germany. Our devices are created in modern processes in Bavaria, from the initial idea to distribution. In the meantime GANSHORN is represented worldwide, with strong markets in Europe, Asia, North and South America.

PowerCube Body+
Body Plethysmography

Vivatmo pro
FeNO monitoring

SpiroScout
Spirometry

tremoflo®
Airwave oscillometry

PowerCube Diffusion+
Diffusion measurement

EucapSys
Eucapnic voluntary hyperpnea (EVH)

Provo.X
Provocation testing

AltiTrainer
Hypoxic challenge testing, hypoxia training

PowerCube Ergo
Cardiopulmonary exercise testing (CPET)

EDAN
Blood gas analysis

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The model shown may also include optional equipment which is not within the standard scope of supply. Design, equipment, and contents are subject to change without notice, as are misprints and errors.